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Class 473 GAMES USING TANGIBLE PROJECTILE

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1 BILLIARDS OR POOL

- 2 . Practice device or device to aid in aiming cue or cue ball during shots (e.g., to assist in bank shots, etc.)
- 3 . Adapted to be played on floor, ground, or court
- 4 . Table or gameboard
- 5 .. With mechanical ball projector
- 6 .. Convertible between billiard and pool (i.e., between pocketed and nonpocketed)
- 7 ... Using pocket blocking device positionable only in vicinity of pocket (e.g., pocket plug, rail piece, etc.)
- 8 ... Using interchangeable, shiftable, reversible, or removable cushion rails
- 9 ... Invertible playing surface
- 10 ... Convertible to another type of furniture or to different type of game playing surface
- 11 ... Rail vertically raised or lowered relative to bed
- 12 ... Vertically movable playing surface
- 13 ... Detachable or hinged rail
- 14 ... Convertible to different type of game playing surface
- 15 .. Readily foldable or collapsible
- 16 .. Rotatable playing surface
- 17 .. Having pocket or other target with ball actuated indicator
- 18 .. Playing surface having unconventional peripheral configuration defined by the carom rails
- 19 .. Attachment or accessory providing plural pockets or other targets located at only one end of playing surface
- 20 .. Playing surface having unconventional number, entrance opening, or arrangement of pockets or having additional or shiftable carom or bumper means thereon
- 21 .. Table attached ball rack
- 22 ... With conveying chutes interconnecting pockets with ball rack
- 23 With means to distinguish or identify each ball pocketed
- 24 Coin controlled
- 25 With means to separate or segregate store balls pocketed by each player or team
- 26 Ball rack also constitutes or includes spotting rack
- 27 .. With means to prevent unauthorized use of table or to limit playing time or number of games played
- 28 .. Pocket structure
- 29 .. Playing surface structure (i.e., bed structure)
- 30 ... Device for securing playing surface covering (e.g., for securing billiard table cloth, etc.)
- 31 .. Rail structure
- 32 ... Cushioned portion thereof
- 33 .. Frame or leg structure
- 34 .. Dust cover therefor
- 35 . Cue chalker
- 36 .. Chalk holder
- 37 ... With means for automatically applying chalk
- 38 ... Flexibly tethered
- 39 ... Secured to generally fixed support
- 40 . Ball spotting rack

- 41 .. With ball carrying or storage means
- 42 . Cue rest
- 43 .. Hand attached or engaged by hand in vicinity of cue supporting portion
- 44 . Cue
- 45 .. Mechanically operated
- 46 .. Disparate attachment therefor or convertible to or combined with disparate device
- 47 .. With user adjustable or changeable weight
- 48 .. Axially telescopic
- 49 .. Tip or tip fastener therefor
- 50 ... Clamp or press
- 51 ... Striking portion formed of material other than leather
- 52 . Ball
- 53 .. Having characteristic enabling ball to be mechanically separated from other balls
- 54 BOWLING**
- . Practice or assist device
- 56 .. For handicapped person
- 57 .. Selective pin setter
- 58 .. Ball path indicator
- 59 .. Bowler worn or carried
- 60 ... Including means for positive engagement with ball
- 61 ... Finger support or guide
- 62 ... Wrist support or guide
- 63 ... Arm or elbow support or guide
- 64 . Handling of pin or pin representation
- 65 .. Including electrical cycle sequence control
- 66 .. Including means for conserving energy
- 67 .. With indicator
- 68 ... Tethered or pivotal pin
- 69 ... Pinfall
- 70 Score
- 71 Including electromechanical calculating means
- 72 ... Foul
- 73 ... Pin setter
- 74 ... Rollable, translatable, or simulative target
- 75 ... Pivotal pin
- 76 Pivot substantially at base of pin
- 77 With spring detent
- 78 ... Tethered pin
- 79 Tethered at base of pin
- 80 Including reset lever or crank
- 81 Including means to remove dead wood
- 82 Pin biased away from bed
- 83 ... Manually loadable
- 84 Including means to upright pin
- 85 ... Magnetic force acts on pin
- 86 ... For alternative pin sets
- 87 ... Including means to lift live wood
- 88 With compensation for pin offset
- 89 ... Including distributor
- 90 Including means to convey pin to distributor
- 91 Including elevator
- 92 ... With compensation for pin offset
- 93 .. Pit cushion or actuator therefor
- 94 .. Pin guide or conveyor
- 95 ... Distributor
- 96 Pivotal chute or conveyor
- 97 Elevator
- 98 With ball separator

- 99 ... And ball handling
- 100 ... Sweep
- 101 ... Pin sensor
- 102 ... Pin spot
- 103 ... Including means for positive pin alignment
- 104 Retractable peg
- 105 Socket-type
- 106 . Ball handling or diverting means
- 107 .. Mechanical projector
- 108 .. Tethered ball
- 109 .. Means to change or curve ball path
- 110 .. Ball return
- 111 ... Ball lift or elevator
- 112 ... Mechanical means for ball retarding or arresting
- 113 ... Gutter structure
- 114 ... Backstop, division board, or adjunct therefor
- 115 . Alley or board structure
- 116 .. Portable game board, table, or alley
- 117 .. With nonwooden alley surface or lining
- 118 . Pin
- 119 .. Composite structure (e.g., distinct layers, components, joint, etc.)
- 120 ... With reinforcing filament, fiber, or fabric
- 121 ... With metal shell or skin
- 122 ... With wooden component
- 123 Laminated or attached wooden components
- 124 With end or bottom reinforcing preform
- 125 . Ball
- 126 .. With weight block
- 127 .. With specific grip means
- 128 ... Thumb or finger hole grip
- 129 Size or depth adjusting means
- 130 Removable insert or bushing
- GOLF**
- 131 . Ball feeding means and tee
- 132 .. Adjustable tee height
- 133 ... Condition responsive feeding means (e.g. automatic)
- 134 ... Pneumatic
- 135 ... Electrical
- 136 ... Pivotal arm ball feed
- 137 . Projectile tethered to swingable implement
- 138 . Anchored (e.g., tethered, etc.) projectile
- 139 .. With electrical sensor or electrical indicator
- 140 ... Pictorial flight path image display
- 141 .. Spool for tether
- 142 .. With force or direction indicator and tether
- 143 ... Linear spring indicator
- 144 ... Force or direction indicator associated with projectile moving around a horizontal axis
- 145 ... Force or direction indicator associated with projectile moving around a vertical axis
- 146 ... Spherical projectile attached to tether
- 147 ... Plural projectiles
- 148 ... Projectile moves around vertical axis
- 149 . Projectile addressing surface and target, or distance marker (e.g., course, putting green with cup, driving range, miniature golf course, etc.)
- 150 ... Electrical sensor or electrical indicator responsive to swingable implement or projectile
- 151 ... Sensor is projectile responsive (e.g., free-flight detection means, etc.)
- 152 Projectile in receiver indicator
- 153

- 154 Target impact responsive
- 155 Including sensor responsive to projectile on addressing surface or in flight (e.g., tee-target time detection, etc.)
- 156 Pictorial flight path image display
- 157 .. Non-earth fairway
- 158 ... And obstacle (e.g., miniature golf course windmill, etc.)
- 159 ... Target is surface positioned aperture
- 160 Selectively contourable (e.g., slope simulating surface, etc.)
- 161 Motor actuation
- 162 Collapsible (e.g., for storage, etc.)
- 163 Projectile return
- 164 ... Projectile rebounds off target
- 165 .. Particular projectile (e.g., reduced flight ball, etc.)
- 166 .. Projectile return
- 167 .. Fairways extending radially from centrally located addressing surface or target
- 168 .. Plural addressing surfaces (e.g., driving range, etc.)
- 169 ... Having sequential play (e.g., regulation earth course, etc.)
- 170 Upstanding target (e.g., wicket, bucket, etc.)
- 171 ... Putting green
- 172 .. Upstanding target
- 173 . Target or obstacle (e.g., putting hole, hole marker, sand trap, etc.)
- 174 .. Target on putting surface
- 175 ... Receiver is cup in earth (e.g., regulation hole in green, etc.)
- 176 Having cup marker (e.g., flag pin, etc.) or with sensor responsive to projectile
- 177 And projectile removal
- 178 Electrical actuation (e.g., solenoid, etc.)
- 179 Cup diameter restriction means (e.g., filler plug, etc.)
- 180 ... Receiver or projectile responsive indicator
- 181 Selectively adjustable approach surface
- 182 Projectile return
- 183 Electrical actuation
- 184 Gravity
- 185 Plural receivers
- 186 Displaceable by projectile impact
- 187 Resilient or pivotal portion arranged in a circle to retain projectile
- 188 Top of projectile engaged
- 189 Pivotal element
- 190 ... Projectile responsive sensor (e.g., target impact indicator, etc.)
- 191 ... And projectile return
- 192 ... Electrical sensor
- 193 ... Projectile adheres to target
- 194 ... Having projectile return
- 195 ... Projectile receiving aperture (e.g., goal opening, etc.)
- 196 ... Aperture forming surface forms plane parallel to support surface
- 197 .. Net
- 198 . Moving projectile responsive sensor or indicator
- 199 .. Electrical
- 200 .. Indicator integral with projectile
- 201 . Hand on grip positioning aid or grip indicator
- 202 .. With electrical sensor or electrical indicator
- 203 .. Integral handle having finger conforming configurations
- 204 .. Angularly related integral grip portions
- 205 .. Worn on hand (e.g., glove, etc.)
- 206 .. Removably attachable to swingable implement
- 207 . Practice device attachable to body
- 208 .. Attachable to head, neck, or mouth
- 209 ... Electrical
- 210 ... Sighting element (e.g., eyeglasses, etc.)

- 211 ... With displaceable indicator responsive to head movement
- 212 ... Attachable to arm, hand, or wrist
- 213 Wrist
- 214 Spans elbow
- 215 ... Attachable to hips, torso, or waist
- 216 ... Waist encircling belt anchored to static structure
- 217 ... Attachable to foot
- 218 . Foot positioning aid and indicator associated with swingable implement
- 219 . Practice swingable implement or indicator associated with swingable implement
- 220 .. With lighting (e.g., laser, etc.) means attachable to or integral with implement
- 221 .. With electrical sensor or electrical indicator
- 222 ... Sensor positioned apart from implement to interact with a separate cooperating sensor means attachable to or integral with implement
- 223 ... Integral with or attachable to swingable implement
- 224 Audible indicator
- 225 ... Sensor integral with projectile addressing surface
- 226 ... Device attachable to or integral with swingable implement
- 227 ... Nonhandle element engagable with body
- 228 ... Air resistance device (e.g., airfoil, etc.)
- 229 ... Anchored (e.g., tethered, etc.) swingable implement
- 230 ... Wheel
- 231 ... Adjustable swingable implement, or swing or position indicator
- 232 Alterable shaft provides swing force indication
- 233 Swing speed indicator
- 234 Audible
- 235 Projectile retained by head of swingable implement during swing
- 236 Projection on face of swingable implement head provides reduced striking area
- 237 Indication is a mark made by implement swing
- 238 Adjustable implement or static position indicator (e.g., with respect to the golfer, projectile, target, etc.)
- 239 Adjustable shaft length
- 240 Reflective element
- 241 Bubble leveler
- 242 Integral with or attachable to swingable implement head
- 243 Self-standing implement
- 244 Selectively adjustable positioning means
- 245 Adjustable loft angle
- 246 And adjustable lie angle
- 247 Longitudinal bore in head receives elongated member about which head pivots
- 248 Adjustable lie
- 249 Surface on head simulates ball
- 250 Having transparent or translucent element
- 251 Used for putting
- 252 Horizontally spaced linear indicia perpendicular to projectile striking face
- 253 And vertically spaced apart indicia
- 254 Vertically spaced apart indicia
- 255 T-shaped head
- 256 ... Particularly weighted practice implement
- 257 ... Swingable implement swing path indicator
- 258 ... Head or shaft continuously engaged during swing
- 259 Closed loop
- 260 Swingable implement head engaged
- 261 ... Barrier which monitors swingable implement head movement
- 262 Barrier is projectile addressing surface
- 263 Self-righting
- 264 Plural barriers, vertically spaced apart
- 265 Plural barriers, horizontally spaced apart
- 266 . Body movement or position indicator (e.g., stance aids, etc.)

- 267 ... Reflective device
- 268 ... Sighting device directing golfer's visual focus toward a point to restrain head movement
- 269 ... Responsive to weight shift
- 270 ... Foot positioning aid
- 271 ... Having separate body engagable member
- 272 ... Selectively adjustable with pivotal members
- 273 ... Selectively adjustable with linearly slid able member (e.g., telescopically extendible)
- 274 ... Engaged with head or neck
- 275 ... And separate body engagable member
- 276 ... Engaged with arm or shoulder
- 277 ... Engaged with hips, torso, or waist
- 278 . Practice projectile addressing surface (e.g., driving mat, etc.)
- 279 ... Selectively adjustable (e.g., tilt able etc.)
- 280 . Practice projectile
- 281 ... Having air resistance device
- 282 . Club or club support
- 283 ... And scorekeeping device
- 284 ... And tee
- 285 ... And ball position marker
- 286 ... And turf repair tool or ball retriever
- 287 ... Club set
- 288 ... Interchangeable handle, striking face, or shaft
- 289 ... Particular correlated shaft flexural characteristic
- 290 ... Particular correlated head characteristic
- 291 Mass distribution
- 292 ... Head, shaft, and handle having particular combined center of gravity
- 293 ... Player faces target (e.g., croquet style putter, etc.)
- 294 ... Hands spaced apart on handle
- 295 ... Rotatable handle
- 296 ... Longitudinally adjustable handle or shaft
- 297 ... Particularly weighted handle
- 298 ... Grip or handle having particular nonwinding attachment to shaft (e.g., quick detachable, etc.)
- 299 ... Reattachable
- 300 ... Grip
- 301 ... Spiral winding
- 302 Having recess or projection
- 303 Having longitudinal recess or projection
- 304 ... One piece head and shaft
- 305 ... Head and shaft connection
- 306 ... Threaded shaft
- 307 ... Detachable and reattachable
- 308 ... Sleeve or winding engaged over outside of joint, hosel, and shaft
- 309 ... Joint formed with sleeve engaging shaft and hosel
- 310 Resilient sleeve engaging hosel and outer shaft wall
- 311 ... Shaft contacts sole
- 312 ... Having core (e.g., weight, etc.) positioned in head engaging shaft end
- 313 ... Putter
- 314 ... Particular relationship between shaft longitudinal axis and head orientation
- 315 ... Noncircular shaft end wall engages hosel
- 316 ... Shaft
- 317 ... Reduced air resistance
- 318 ... Including nonmetallic material or vibratory wave modifying feature
- 319 Filament (e.g., fiber, etc.) or sheet wrapped about shaft longitudinal axis
- 320 Including metal
- 321 And metal

- 322 Sections connected along longitudinally extending seam
- 323 Shaft tapered in steps
- 324 Head
- 325 Plural striking faces
- 326 Liquid interior
- 327 Reduced air resistance
- 328 Reduced ground resistance
- 329 Striking face surface deforms upon impact (e.g., resilient, etc.)
- 330 Curved, grooved, or roughened striking face
- 331 Plural grooves
- 332 Vibratory wave (e.g, shock wave, etc.) modifying feature
- 333 With element displaceable with respect to another head element during swing
- 334 Selectively adjustable weighting element
- 335 Embedded in head
- 336 Elongated horizontal bore
- 337 Perpendicular to projectile striking face
- 338 In vertical bore access by sole
- 339 In vertical bore access through top
- 340 Putter
- 341 Toe and heel weighting
- 342 Striking face insert
- 343 Wood composition
- 344 Having particular sole plate
- 345 Hollow body
- 346 With internal support rib or injected material
- 347 Embedded fiber composition
- 348 Including metal
- 349 Particular material composition or mass distribution
- 350 Recess or cavity behind striking face
- 351 . Ball
- 352 .. Buoyant
- 353 .. Having locator means
- 354 .. Liquid interior
- 355 .. Hollow pockets between spherical core and cover
- 356 .. Wound interior
- 357 Surrounding non-wound spherical core
- 358 Hollow core
- 359 Metal core or winding
- 360 Wound wire
- 361 Plural diverse layers between core and cover
- 362 Diverse tension in wound layers
- 363 Nonwound layer
- 364 Plural diverse nonwound layers
- 365 Having particular cover
- 366 Wound wide band
- 367 .. Interior includes injected or compressed material
- 368 .. Injected material
- 369 Injected gas
- 370 ... Diverse layer between shperical core and cover
- 371 ... Particular unitary or layered construction
- 372 ... Containing metal
- 373 Diverse layer between spherical core and cover
- 374 Diverse layer between spherical core and cover
- 375 Hollow core
- 376 Plural diverse layers
- 377 ... Diverse cover and interior
- 378 ... Particular cover (e.g., size, material, dimple pattern, etc.)
- 379 ... Icosahedral dimple pattern

- 380 ... Cuboctahedral dimple pattern
 - 381 ... Dodecahedral dimple pattern
 - 382 ... Octahedral dimple pattern
 - 383 ... Particular dimple detail
 - 384 Depth or width
 - 385 ... Containing metal
 - 386 . Tee setting device
 - 387 . Tee
 - 388 .. Folded flat stock material
 - 389 ... Separable from pack containing plural tees
 - 390 .. Plural
 - 391 ... Separable or separately movable
 - 392 ... Projectile supporting surface horizontally offset from vertical insertable shank
 - 393 ... Tether
 - 394 ... Restrained by auxiliary weight
 - 395 .. Wire
 - 396 ... Relatively movable sections
 - 397 ... Pivotal about distinct horizontal axis
 - 398 ... Elevation guide
 - 399 ... Particular biodegradable or frangible material
 - 400 .. Elevation guide for insertable shank
 - 401 .. Plural diverse materials
 - 402 .. Shank extends below level of projectile addressing surface
 - 403 ... At acute angle with surface
 - 404 . Green slope indicator
 - 405 . Accessory device located on projectile addressing surface (e.g., tee block, direction indicator, etc.)
 - 406 . Ball position marker
 - 407 . Club selection, ball direction, or distance indicating aid
 - 408 . Player manipulated turf repair tool
 - 409 . Method
- CROQUET; GAME ELEMENT OR ACCESSORY THEREFOR**
- 411 . Arch type of goal or target, per se (i.e., croquet wicket)
 - 412 . Player-carried, nonmechanical projector, per se (e.g., a mallet, etc.)
 - 413 . Ball, per se
- HOPSCOTCH**
- PLAYING FIELD OR COURT GAME; GAME ELEMENT OR ACCESSORY THEREFOR OTHER THAN PROJECTOR OR PROJECTILE, PER SE**
- 415 . Having game element combined with or convertible to game element or practice or training device for different type of projectile game
 - 416 . Means removably supporting projectile in position to be struck and thereby projected by player (e.g., batting tee, etc.)
 - 417 .. Projectile suspended or is supported by column of fluid
 - 418 .. Having means engaging top of projectile (e.g., kicking trainer or tee, etc.)
 - 419 .. For projectile intended to be projected by kicking (e.g., kicking trainer or tee, etc.)
 - 420 . Batting backstop or cage
 - 421 . Practice or training device
 - 422 .. Tethered projectile
 - 423 Tether attached to means adapted to be held by, carried by, or attached to person
 - 424 Person held, carried, or attached means is nonmechanical projector
 - 425 ... Projectile tethered between opposed tether sections
 - 426 ... Projectile continuously driven in closed orbit prior to being struck
 - 427 ... Projectile slidably along a line
 - 428 ... Tether pivotally attached for orbital revolution
 - 429 ... Projectile suspended by tether
 - 430 .. Having projectile return means
 - 431 ... Return chute
 - 432 With or for basketball-type goal
 - 433

- 434 ... Deflector
- 435 Planar
- 436 Using moving arm or rotating wheel
- 437 ... Weight externally mounted by user to manually held and swung projector for warmup or exercise
- 438 ... For football or rugby
- 439 ... Projectile target or stop
- 440 ... Running grid or resistance course
- 441 ... Blocking, tackling, or charging device
- 442 Suspended or suspendible dummy
- 443 Suspension movable in horizontal plane
- 444 Self-erecting or person-supported dummy
- 445 Dummy mounted on support enabling traverse over ground or floor during training (e.g., charging sled, etc.)
- 446 ... For game using apertured or pocketed goal or target (e.g., for hockey, soccer, polo, lacrosse, etc.)
- 447 ... For game using elevated, horizontally disposed goal or target (e.g., for basketball, etc.)
- 448 Hoop-opening reducer or means for improving arch of ball shot toward goal or target
- 449 Rebound or tipping trainer
- 450 Player worn or carried
- 451 ... For game in which play involves base running (e.g., for baseball, cricket, etc.)
- 452 ... Foot positioner (e.g., stance, stride device, etc.)
- 453 ... Bat swing analyzer or guide
- 454 ... Pitcher's target
- 455 With electrically operated or actuated indicator
- 456 Having subdivided strike zone
- 457 ... Practice bat
- 458 ... Player worn or carried
- 459 ... For game using field or court having dividing means thereon for separating opponents (e.g., for tennis, volleyball, table tennis, etc.)
- 460 ... Projectile collector for field or court (e.g., trough, ball sweeper, etc.)
- 461 ... Racket or paddle swing analyzer or guide
- 462 ... Projectile target
- 463 ... Practice racket or paddle
- 464 ... Player worn or carried
- 465 . Having at least two different types of game elements used in same game
- 466 ... For game in which court or field is body of water (e.g., water polo, water volleyball, etc.)
- 467 ... Having boundary detector (e.g., ball-out-of-bounds detector for tennis court, etc.)
- 468 ... For game in which play involves base running (e.g., baseball, cricket, etc)
- 469 ... Having field or court dividing barrier with apertured goal or target therein or thereon
- 470 ... For game using goal or target for projectile (e.g., football, rugby, etc.)
- 471 ... For game in which goal or target is peripherally located aperture or pocket (e.g., hockey, soccer, lacrosse, polo, etc.)
- 472 For game in which peripheral goal or target is elevated and horizontally disposed (e.g., basketball, etc.)
- 473 ... For game using field or court having dividing means thereon for separating opponents (e.g., a net used for volleyball, etc.)
- 474 ... For game also using projectors carried by players (e.g., tennis, badminton, etc.)
- 475 Table tennis
- 476 . Goal or target structure for projectile; element thereof
- 477 .. For football or rugby (e.g., goal post, etc.)
- 478 .. Apertured or pocketed goal or target (e.g., for hockey, soccer, polo, lacrosse, etc.)
- 479 ... Goal or target is elevated and horizontally disposed (e.g., for basketball, etc.)
- 480 With goal indicator

- 481 Backboard or support structure therefor
- 482 Suspended
- 483 With height adjustment feature
- 484 Having parallelogram linkage
- 485 Hoop or the net, pocket, or support structure therefor
- 486 Breakaway hoop
- 487 Having means for mounting over edge of support
- 488 Quick mount hoop
- 489 Removable net-mounting subassembly
- 490 . Means for dividing field or court into compartments; element thereof or accessory therefor (e.g., a net, marking strip, marked line, etc.)
 - 491 .. Net attachable to game table
 - 492 .. Net post
 - 493 ... With net-tightening means
 - 494 .. Net, with net, or for net
 - 495 ... Net center stay
 - 496 . Table-tennis table
 - 497 . Pitching rubber or mound
 - 498 . Cricket wicket
 - 499 . Base for game in which play involves base running (e.g., for baseball, etc.)
 - 500 .. With indicator
 - 501 .. Breakaway
 - 502 . Flag belt (e.g., for use in football game without tackling, etc.)
 - 503 . Projectile catcher other than combined projector-catcher device
 - 504 . Cover for playing field or court (e.g., for baseball field, etc.)
- 505 PLAYER-HELD DEVICE FOR BOTH PROJECTING AND CATCHING AERIAL PROJECTILE; PART THEREOF OR ACCESSORY THEREFOR (I.E., COMBINED PROJECTOR-CATCHER DEVICE)**
 - . With tethered projectile
 - .. Having pocketed catcher
 - ... Having elastic tether
 - . Having projectile conducting means between separate entrance and exit (e.g., continuous orbit, etc.)
 - . Both projector and catcher are pocketed
 - .. With mechanical projection
 - .. Pocket-to-pocket type
 - .. Having pocket with laterally facing opening (e.g., lacrosse stick, jai alai cesta, etc.)
 - . Having impaling, hooking, or ensnaring type catcher
 - . Having pocketed catcher connected to but spaced apart from projector

- 516 PLAYER HELD AND POWERED, NONMECHANICAL PROJECTOR, PER SE, FOR PROJECTING AERIAL PROJECTILE BY STRIKING; PART THEREOF OR ACCESSORY THEREFOR**
 - . Having projectile retrieving means
 - . Body attachable
 - . With user shiftable, adjustable, or interchangeable weight for use during play or with freely shiftable mass for increasing impact force
 - . With sound-deadening, vibration-damping, or shock-absorbing feature other than projectile- or hand-contact surface or with rebound reducing feature
 - .. For racket or paddle
 - ... Contacts string
 - ... In, under, or contacting grip
 - . Racket or paddle; accessory therefor (e.g., a tennis racket, tennis racket press, etc.)
 - .. Having striking faces attached to the ends of intermediate handle
 - .. Having handle at an angle to, offset from, or nonradially oriented relative to plane of striking member
 - .. Paddle
 - ... Projectile striking surface is flexible sheet secured to peripheral frame
 - ... Having resilient blade facing

- 530 ... Blade having means to enhance friction upon impacted projectile (e.g., to enhance English upon projectile, etc.)
- 531 ... Folding or detachable shaft
- 532 ... Having replaceable string frame
- 533 ... Double strung (i.e., having striking faces formed from two spaced-apart, planar sets of strings)
- 534 ... With adjustable string-tensioning means
- 535 ... Fiber reinforced plastic frame
- 536 ... Plural fiber compositions
- 537 ... Having dimensional characteristic or other parameter specified by a number, numeric variable, or mathematical formula (e.g., location of center of gravity, elastic modulus of a string, weight of racket, etc.)
- 538 ... Of handle or grip
- 539 ... Elongated string-hole liner (e.g., grommet, bushing, etc.)
- 540 ... Having string mounting feature other than mere through-holes lying in string plane
- 541 ... Extending radially inward from inner frame edge
- 542 ... Having nonplanar string-hole pattern or arrangement in frame
- 543 ... Prefabricated string assembly, means to prevent relative movement or wear at crossover points of strings, or having one or more strings with specified characteristic or arrangement
- 544 ... Nonmetallic frame having metallic reinforcement or frame composed of metal-plastic composite
- 545 ... Metallic frame
- 546 ... Throat wedge, bridge, or reinforcement
- 547 ... Having laminated frame
- 548 ... String guard, frame bumper or guard, or specified shaft to head connection
- 549 ... Handle or grip structure
- 550 ... Dispensing, cooled, or externally ventilated
- 551 ... Having hand or finger conforming contour, through-hole for finger, portion overlying back of hand, projecting hand stop or positioner spaced from butt, wrist strap, or nonstandard transverse cross-section
- 552 ... Grip or handle longitudinally or rotationally adjustable relative to head or shaft or changeable in length
- 553 ... Accessory for use with racket or paddle (e.g., used with or for tennis racket, etc.)
- 554 ... Press
- 555 ... Racket frame holder or support for use while stringing
- 556 With stringing or string-stretching device
- 557 ... Stringing or string-stretching device
- 558 . Mallet
- 559 . Club
- 560 ... Having elongated blade (e.g., hockey stick, etc.)
- 561 ... Fiber reinforced
- 562 ... Stick to blade joint construction
- 563 ... Blade construction or accessory
- 564 . Bat (e.g., baseball bat, etc.)
- 565 ... Having elongated blade (e.g., cricket bat, etc.)
- 566 ... Of metallic-shell structure
- 567 ... Of plastic composition
- 568 .. Grip
- 569 PROJECTILE, PER SE; PART THEREOF OR ACCESSORY THEREFOR**
- 570 . With light-emitting, electrical, magnetic, or rotatable inertial means or having boundary-detector activating means
- 571 . With sound-producing means
- 572 . Having suction cup
- 573 . Having bristled, hooked, or looped surface for adherence to complementarily surfaced means (e.g., Velcro@ material, etc.)
- 574 . Having means for nonpenetrating adherence to complementarily surfaced means (e.g., tacky surface, etc.)

- 575 . Having attached or means for attaching thereto tether, elongated flaccid streamer, or the like
- 576 .. Attached tether, streamer, or the like has means adapted to be held by, carried by, or attached to person
- 577 . Scattershot, material dispensing upon impact, openable to expose interior chamber, or having parts adapted to move away from, or be separated from, one another upon impact
- 578 . Arrow, dart, or shuttlecock; part thereof
- 579 .. Shuttlecock (e.g., badminton shuttlecock, etc.)
- 580 ... Having independent feathers or vanes
- 581 ... Having fluid-conducting means
- 582 ... Head structure
- 583 ... Broadhead
- 584 Having interchangeable blade
- 585 ... And vane structure (i.e., flight guiding or stabilizing means)
- 586 ... Vane structure (i.e., flight guiding or stabilizing means)
- 587 . Curling stone
- 588 . Disk- or ring-shaped (e.g., ice hockey puck, etc.)
- 589 .. Ring-shaped (e.g., deck-tennis quoit, etc.)
- 590 . Boomerang
- 591 . Horseshoe
- 592 . Tipcat
- 593 . Having self-contained means for inflating, pressurizing, reinflating, or repressurizing projectile with fluid or comprising reinflating or repressurizing method
- 594 . Having loose internal element, containing or adapted to contain liquid, or comprising spherically configured ball having variable or eccentric center of gravity
- 595 . Having means other than ellipsoidal spheroid shape (e.g., football shaped, etc.) to produce erratic or unpredictable rebounding or rolling thereof
- 596 . Having handle or surface configuration for enhancing user's handgrip thereon
- 597 .. Grip-enhancing means comprises closure or seam of casing or cover or comprises simulation of such closure or seam (e.g., lacing of football casing, etc.)
- 598 . Comprising casing or cover having stitched seam or laced closure; blank for such casing or cover (e.g., casing of baseball, etc.)
- 599 .. For distensible bladder (e.g., casing of football, etc.)
- 600 . Having solid core within outer cover; core or cover therefor (e.g., baseball, etc)
- 601 .. And having intermediate layer between core and cover or having core or cover composed of plural layers
- 602 ... Having plural intermediate layers, at least one being of material diverse from material of core, cover, or another intermediate layer; or having core or cover composed of three or more layers, at least two being of diverse materials
- 603 . Having fluid-retaining bladder removable from within enclosing cover or casing (e.g., football, etc.)
- 604 . Having hollow core or bladder enclosed within cover (e.g., basketball, soccer-ball, tennis ball, etc.)
- 605 .. And having intermediate layer composed of wrapping of strands or strips between cover and core or bladder
- 606 .. Cover is composed of feltlike, napped, or cloth material (e.g., tennis ball, etc.)
- 607 . Comprising cover for core; blank or closure therefor
- 608 .. Closure therefor
- 609 . Having hollow, fluid-impervious shell, core, or bladder
- 610 .. With sealable opening, valve, or inflation tube for insertion of fluid (e.g., beach ball, etc.)
- 611 . Comprising opening, valve, or inflation tube for insertion of fluid
- 612 . Having visible skeletal structure
- 613 . Having fluid-dynamic means other than stitched seam or textured surface to alter, stabilize, or retard passage of projectile through the fluid (e.g., spiral fluting to impart spin, etc.)

- 614 . Having projections extending outwardly from external surface or consisting of a mass of radially oriented filaments
615 . Player held or worn means for enhancing movement of projected projectile (e.g., a handheld, ball-curving assist means, etc.)

FOREIGN ART COLLECTIONS

FOR000 CLASS-RELATED FOREIGN DOCUMENTS

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

FOR100 **BASKETBALL (273/1.5R)**

FOR101 . Basketball training devices (273/1.5A)

FOR102 **BASEBALL (273/25)**

FOR103 . Practice devices (273/26R)

FOR104 .. Target or backstop (273/26A)

FOR105 .. Bats (273/26B)

FOR106 .. Player worn (273/26C)

FOR107 .. Ball pitching devices (273/26D)

FOR108 .. Tethered (273/26E)

FOR109 .. Tethered balls slidable along a line (273/26EA)

FOR110 . Field covers (273/27)

FOR111 . Ball curvers (273/28)

FOR112 **TENNIS (273/29R)**

FOR113 . Table (273/30)

FOR114 . Court marking strips (273/31)

FOR115 . Practice (273/29A)

FOR116 . Nets (273/29B)

FOR117 .. Net center stay (273/29BA)

FOR118 .. Net post (273/29BB)

FOR119 ... Net tightening (273/29BC)

FOR120 Reel (273/29BD)

- FOR121 Lever (273/29BE)
- FOR122 Screw (273/29BF)
- FOR123 Rotating post (273/29BG)
- FOR124 **FOOTBALL (273/55R)**
- FOR125 . Tackling dummies (273/55A)
- FOR126 . Kicking tees and kicking trainers (273/55B)
- FOR127 . Flag belts (273/55C)
- FOR128 . Goal post structure (273/55D)
- FOR129 **CROQUET (273/56)**
- FOR130 . Tables and boards (273/57)
- FOR131 **HOPSCOTCH (273/57.1)**
- FOR132 **HOCKEY**
- FOR133 **FENCING (273/57.3)**
- FOR134 **BALLS (273/58R)**
- FOR135 . Baseball (273/60R)
- FOR136 .. Covers (273/60A)
- FOR137 .. No windings (273/60B)
- FOR138 . Tennis (273/61R)
- FOR139 .. Ping-pong balls (273/61A)
- FOR140 .. Fabrics, per se (273/61B)
- FOR141 .. Rubber formulations (273/61C)
- FOR142 .. Methods of pressurizing (273/61D)
- FOR143 . Football and basketball (273/65R)
- FOR144 .. Closure (273/65A)
- FOR145 .. Bladders (273/65B)
- FOR146 .. Valves: composite (273/65C)
- FOR147 .. Valves: rubber (273/65D)
- FOR148 .. Casings (273/64E)
- FOR149 ... Nonball art (273/65EA)

- FOR150 ... Windings (273/65EB)
- FOR151 ... Weighted (273/65EC)
- FOR152 ... Ball making methods (273/65ED)
- FOR153 ... One-piece construction (273/65EE)
- FOR154 ... Spiraling and electrical (273/65EF)
- FOR155 ... Gripping structure (273/65EG)
- FOR156 .. Closure means (273/65F)
- FOR157 . Solid and covered (273/58A)
- FOR158 . Hollow: single layer (273/58B)
- FOR159 . Plural layer (273/58BA)
- FOR160 . Tethered (273/58C)
- FOR161 . Skeleton (273/58D)
- FOR162 . Sounding (273/58E)
- FOR163 . Loose internal elements (273/58F)
- FOR164 . Including electrical components (273/58G)
- FOR165 . Liquid containing (273/58H)
- FOR166 . rubber formulation (273/58J)
- FOR167 . Surface projections (273/58K)
- FOR168 **BAT, MALLET, RACKET, OR BILLY (273/67R)**
- FOR169 . Baseball (273/72R)
- FOR170 .. Metal shell (273/72A)
- FOR171 . Tennis (273/73R)
- FOR172 .. Presses and cases (273/74)
- FOR173 .. Handle grips (273/75)
- FOR174 .. Table (273/76)
- FOR175 .. Stringing devices (273/73A)
- FOR176 .. Stretching devices (273/73B)
- FOR177 .. Bow structure (273/73C)
- FOR178 .. String fastener or guides (273/73D)

- FOR179 .. Adjustable tension (273/73E)
- FOR180 .. Laminated nonmetallic (273/73F)
- FOR181 .. Throat structure (273/73G)
- FOR182 .. Metal (273/73H)
- FOR183 .. Handle structure, per se (273/73J)
- FOR184 .. Metal reinforced (273/73K)
- FOR185 .. Replaceable string frame (273/73L)
- FOR186 . Croquet (273/83)
- FOR187 . Police clubs (273/84R)
- FOR188 .. Electric shock (273/84ES)
- FOR189 . Hockey sticks (273/67A)
- FOR190 . Hand or foot attached (273/67B)
- FOR191 . Polo mallet (273/67C)
- FOR192 . Cricket bat (273/67D)
- FOR193 .. Handle structure (273/67DA)
- FOR194 .. Grips, guards, and weights (273/67DB)
- FOR195 .. Blade facings (273/67DC)
- FOR196 . Combined projector and catcher (273/318)
- FOR197 .. Tethered projectile (273/319)
- FOR198 ... Pocketed catcher (273/320)
- FOR199 Elastic tether (273/321)
- FOR200 .. Separate entrance and exit (e.g., continuous orbit, etc.) (273/322)
- FOR201 .. Pocketed projector and catcher (273/323)
- FOR202 ... Mechanical projection (273/324)
- FOR203 ... Pocket-to-pocket (273/325)
- FOR204 ... Transversely extending pocket (e.g., lacrosse stick) (273/326)
- FOR205 .. Impaling, hooking, or ensnaring type catcher (273/327)
- FOR206 .. Pocketed catcher-separate projector (273/328)
- FOR207 . Tipcoat game, projectile therefor, or accessory (273/341)

- FOR208 . Projectile or target having suction cup (273/344)
- FOR209 . Projectile or target having magnetized material for adherence therebetween (273/345)
- FOR210 . Projectile or target having complementary bristled, micro-hooked, or looped material for adherence therebetween (e.g., Velcro@ material, etc.) (273/346)
- FOR211 . Projectile or target having complementary means for nonpenetrating adherence therebetween (e.g., tacky surface, etc.) (273/347)
- FOR212 . Playing field or court game; or accessory therefor (e.g., volleyball, soccer, etc.) (473/411)
- FOR213 . Tethered projectile (273/413)
- FOR214 .. Tethered to means engageable with human body part (e.g., hand-held means or means attachable to human body part) (273/414)
- FOR215 . Scattershot projectile or beanbag projectile (273/415)
- FOR216 . Arrow, dart, shuttlecock, or element thereof (273/416)
- FOR217 .. Shuttlecock (273/417)
- FOR218 .. Material dispensing upon impact or having fluid conducting means (273/418)
- FOR219 .. Head structure (273/419)
- FOR220 ... And vane structure (i.e., flight guiding or stabilizing means) (273/420)
- FOR221 ... Broadhead (273/421)
- FOR222 Interchangeable blade (273/422)
- FOR223 ... Vane structure (i.e., flight guiding or stabilizing means) (273/423)
- FOR224 . Disc or ring projectile (273/424)
- FOR225 .. Ring (273/425)
- FOR226 . Boomerang projectile (273/426)
- FOR227 . Horseshoe projectile (273/427)
- FOR228 . Nonspherical projectile (273/428)
- FOR229 . Projectile (273/128R)
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